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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,427	10/21/2005	Kenya Takagawa	81864.0053	3085
26021	7590	10/31/2007		
HOGAN & HARTSON L.L.P. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067			EXAMINER HEVEY, JOHN A	
			ART UNIT 4116	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,427	TAKAGAWA ET AL.	
	Examiner	Art Unit	
	John A. Hevey	4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 2-4 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 7-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/2005, 4/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Claims 1, 5, and 7-16 in the reply filed on 9/27/2007 is acknowledged. Claims 1, 5, and 7-16 are pending and presented for examination.

Claim Objections

2. Claims 5, 7-12, and 14-16 are objected to because of the following informalities: The claims are dependent on non-elected claims. The claims should be amended to depend only on the elected claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 8-10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "second additive" in line 3 of the claim.

Claim 9 recites the limitation "third additive" in line 3 of the claim.

Claim 10 recites the limitation "fourth additive" in line 3 of the claim.

These claims are not dependent on claim 5 which recites "first additive" nor dependent on each other, thus only one additive is being claimed at a time.

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Consequently, claims 8-10 are indefinite as they refer to additional additives which are not claimed.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substantially" in claim 1 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear what level of the balance of the composition constitutes "substantially MnO". Therefore, one would not know what the metes and bounds of the claims are.

Claim Rejections - 35 USC § 102/103

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 5, 7-13, and 15-16 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsutani et al. (JP06-310321).

Claim 1 is drawn to a sintered ferrite body comprising 62-68 mol% Fe₂O₃, 12-20 mol% ZnO, 0.2-5 mol% NiO, and the balance MnO, where the saturation

magnetic flux density at 100 C is 450 mT or more, and the minimum core loss value is 1200 kW/m³. Matsutani teaches a sintered body comprising 61-67 mol% Fe₂O₃, 0-30 mol% ZnO, 0.2-5 wt% NiO (approximately 0.01-1 mol% given an average composition of the above ranges), and 3-36 mol% MnO (see abstract). The reference further teaches specific examples, with for example 65.5 mol% Fe₂O₃, 17 mol% ZnO, 17.5 mol% MnO and in addition adding up to .6 wt.% Ni (see example 3 and table 3). Although Matsutani does not explicitly teach the saturation magnetic flux density and minimum core loss value at the given measurement conditions required by claim 1, those properties are believed to be inherent to the material. Therefore, as Matsutani teaches the same composition as that required by the instant claims, it would inherently possess these properties as well.

In regards to claim 5 and 7, Matsutani teaches the addition of 0.05-0.5 wt.% CaO (approximately 500-5000 ppm) and 0.005-0.2 wt.% SiO₂ (approximately 50-200 ppm) (see abstract). The reference further teaches examples where the ratio of SiO₂ / CaO content is 0.05, 0.1, 0.2 and others (see table 2). The reference discloses that CaO is added in the form of CaCO₃ (see paragraph [0062]).

In regards to claims 8-10, Matsutani teaches the addition of oxides selected from ZrO₂, In₂O₃, Ta₂O₅, Ga₂O₃, GeO₂, and Sb₂O₃ in the amount of 0.01-0.5 wt.% (approximately 100-5000 ppm) reading on the instant claims 8 and 10 (see claim 2). In addition, the reference teaches the addition of 0.005-0.5

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wt.% of TiO₂, CoO, CuO, and SnO₂ (approximately 50-5000 ppm) reading on claim 9 (see abstract).

In regards to claims 11-13 and 15-16, the instant claims are drawn to the saturation magnetic flux density, minimum core loss value, and initial permeability at given measurement conditions. These properties are inherent to the material. Therefore, as Matsutani teaches the same composition as that required by the instant claims (see rejection of claim 1 above), it would inherently possess these properties as well.

In the alternative regarding claims 1, 5, 7-13, and 15-16, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980). Accordingly, the optimized composition would have inherently possessed the properties recited in the instant claims, or alternatively, would have been substantially similar to that required by the instant claims and thus obvious.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Matsutani et al. (JP06-310321).

The instant claim is drawn to the composition of claim 1 with a relative density of at least 93% and mean grain size of 5-30 micrometers. Matsutani teaches the composition required by claim 1 (see rejection of claim 1 above) and teaches that the average crystal grain size is 10 micrometers or less, where about 2-5 micrometers is desirable. The reference differs in that it does not disclose the required relative density of the material, however it does teach that grain size and relative density are factors in the final properties of the sintered body (see paragraphs [0042]-[0043]). Put another way, Matsutani teaches grain size and relative density to be an art recognized result effective variables.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the relative density of Matsutani to obtain

that required by claim 14. Alternatively, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See In re Boesch, 205 USPQ 215 (CCPA 1980). One would have been motivated to make such a modification to decrease loss, increase production yields, and optimize the permeability and electrical resistance as taught by Matsutani (see paragraphs [0042]-[0043]).

11. Claims 1, 5, 7-13, and 15-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al. (JP11-003813).

Claim 1 is drawn to a sintered ferrite body comprising 62-68 mol% Fe₂O₃, 12-20 mol% ZnO, 0.2-5 mol% NiO, and the balance MnO, where the saturation magnetic flux density at 100 C is 450 mT or more, and the minimum core loss value is 1200 kW/m³. Kono teaches a sintered body comprising 52-68 mol% Fe₂O₃, 0-15 mol% ZnO, 0.5-10 mol% NiO, 0.05-0.5 mol% CoO, and the remainder MnO (see abstract). The reference fails to teach specific examples which read on all required ranges of claim 1, however it would have been obvious to one of ordinary skill in the art to choose from the overlapping portion of the ranges. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05. Furthermore, although Kono does not

explicitly teach the saturation magnetic flux density and minimum core loss value at the given measurement conditions required by claim 1, those properties are believed to be inherent to the material. Therefore, as Kono teaches the same composition as that required by the instant claims, it would inherently possess these properties as well.

In regards to claim 5 and 7, Kono teaches the addition of 0.02-0.3 wt.% CaO (approximately 200-3000 ppm) and 0.01-0.1 wt.% SiO₂ (approximately 100-1000 ppm) (see abstract). The reference further teaches examples where the ratio of SiO₂ / CaO content is 0.09, 0.12 (see examples 18 and 23 on table 2). The reference differs in that it discloses the use of CaO and not CaCO₃, however it is well known in the art that the two materials are substitutes as a source of Ca. Therefore it would have been obvious to one of ordinary skill in the art to use modify the composition of Kono to include CaCO₃ in place of CaO. One would have been motivated to make this modification to increase industrial applicability, and one of ordinary skill would have a reasonable expectation of success with the modification.

In regards to claims 8-10, Kono teaches the addition of oxides selected from Nb₂O₅, V₂O₅, HfO₂, in the amount of 0.005-0.05 wt.% (approximately 50-500 ppm) Ta₂O₅, ZrO₂ in the amount of 0.005-0.1 wt.% (approximately 50-1000 ppm) TiO₂ in the amount of 0.05-0.5 (approximately 500-5000 ppm) and SnO₂ in the amount of 0.01-0.5 (approximately 100-5000 ppm) (see claim 3).

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In regards to claims 11-13 and 15-16, although the instant claims are further require the saturation magnetic flux density, minimum core loss value, and initial permeability at given measurement conditions, these properties are inherent to the material. Therefore, as Kono teaches a substantially similar composition as that required by the instant claims (see 103 rejection of claim 1 above), it would be proper for these claims to be included in this 103 rejection.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claim 1 is provisionally rejected on the ground of nonstatutory double patenting over claim 20 of copending Application No. 10/529333. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

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The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: a ferrite sintered body comprising 62-68 mol% Fe_2O_3 , 12-20 mol% ZnO , 0-5 mol% NiO , and the balance MnO , and the saturation magnetic flux density at 100 C is 450 mT or greater (with measurement magnetic field of 1194 A/m).

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US6458286 Manganese-zinc based ferrite, US6627103 Mn-Zn ferrite production process, Mn-Zn ferrite, and ferrite core for power supplies, and US2005/0167632 Method for producing Mn-Zn ferrite.

15. All pending claims are rejected. No claims are allowed.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Hevey whose telephone number is 571-270-3594. The examiner can normally be reached on Monday - Friday 7:30 AM to 5:00 PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-270-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jah


VICKIE Y. KIM
SUPERVISORY PATENT EXAMINER